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Application No. 10/731,409
Filed: December 9, 2003
TC Art Unit: 3677
Confirmation No.: 3924

AMENDMENT TO THE CLAIMS

Claim 1 (currently amended) A coupling structure for coupling between a screw shaft for driving an injection screw driving body and a motor shaft of an electric motor in an injection device, wherein for converting a rotating movement of the screw shaft conducted by the electric motor is converted into a linear movement of the injection screw driving body by screwing the screw shaft and a nut member positioned at the injection screw driving body with each other and injecting resin according to an advancing movement of the injection screw driving body, wherein, for performing and coupling between the screw shaft and the motor shaft of the electric motor being performed by engagement of a screw shaft spline and a motor shaft splinesplines with each other, the coupling comprising a bearing sleeve having:

an inner diameter for engaging one end of the screw shaft,

a flange integrally formed on an outer periphery of the bearing sleeve,

a rear portion disposed at the rear of the flange that is formed into a size fitted to a recess formed inside of an end of the motor shaft, and

an inner spline disposed at an inner periphery of the bearing sleeve;

wherein the bearing sleeve is detachably mounted to the motor shaft by fitting the rear portion of said bearing sleeve into the recess and fastening the flange on an end face of the motor shaft with a bolt such that the inner spline serves as the motor shaft spline; and

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the screw shaft spline is formed on an outer periphery on a shaft end portion of the screw shaft, provided on the screw shaft and the motor shaft,
the spline for the motor shaft engaging with the spline on an outer periphery on a shaft end portion of the screw shaft is provided on an inner periphery of a bearing sleeve which is detachably mounted to the motor shaft by fitting the bearing sleeve into a recess formed inside a motor shaft end and fastening a flange integrally formed on an outer periphery of the bearing sleeve to an end face of the motor shaft with a bolt.

Claim 2 (original). The coupling structure between the screw shaft and the motor shaft in the injection device according to claim 1, wherein the bearing sleeve has an annular groove at the inner periphery of an opening for the side of the screw shaft, and a ring member for air-tightly sealing a clearance formed between the screw shaft and the bearing sleeve is fitted into the annular groove.